

RESEARCH AND DEVELOPMENT, NEUCHATEL - QUARTERLY REPORT

DIVISION : NEW PRODUCT DEVELOPMENT  
SUBJECT TITLE : PRODUCT INNOVATION  
PERIOD COVERED : APRIL - JUNE 1990  
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KEYWORDS : project, cigarette, filter, papirossi, profile,  
puff, tube-in-tow, triple, volga, lena

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PROJECT VOLGA - NO 0164

Objective

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To develop tube-in-tow filters in order to produce 1-mg/4-mg-and-6-mg tar cigarettes (84 mm length) with improved initial puffs.

Status

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Referring to our last quarterly report (Ref. 1), we produced two types of triple tube-in-tow filters at Intertaba. These filters have been produced to overcome the high variability of the initial smoke analyses of the dual tube-in-tow filter. Fig. 1 shows this filter design, which was also produced with non-perforated tube. Prototypes 47P and 48P were produced using these filters and standard PMS blend. Comparative data in Table 1 show that prototypes 47P and 48P have an improved coefficient of variation in TPM as compared to 35P (dual tube-in-tow filter). However, they are approaching the normal accepted levels of variation for standard brands.

Fig. 2 shows the improved puff profile of both prototypes 47P and 48P as compared to PMS and 35P (dual tube-in-tow filter). These two prototypes constructions were also produced with the Muratti Mild (Cortland) blend in order to subjectively evaluate this last version of triple tube-in-tow filter (56P and 57P). The taste evaluation by Panel A (Ref. 2) was as follows :

" Prototype 56P gives more satisfaction than 57P which subjectively has a higher RTD and its taste is thin. 56P gives a slight mouth coating after the initial puffs".

Plans

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The triple tube-in-tow filter has a perforated tube which will be used to produce a 4 mg tar cigarette prototype. This prototype will be evaluated versus current 56P (3.4-mg tar).

The triple tube-in-tow filter (as used in 56P) was produced in

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large quantities, in anticipation of a potential product test of 160'000 cigarettes.

References

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- [1] Gawad-A, Quarterly report, October-December 1989.
  - [2] Panel A, Project Volga, June 29, 1990.

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TABLE 1 - PROJECT VOLGA

SMOKING ANALYSIS RESULTS VARIATION TPM MG/CIG

	$\bar{X}$	TPM S	C OV %
<u>Muratti Ambassador Ultra</u>			
4 analysed (triple filter)	4.0	0.23	5.8
<u>Muratti Ambassador KS</u>			
10 analyses (dual filter)	11.7	0.57	5.0
<u>Brunette Extra</u>			
5 analyses (PSP filter)	7.6	0.56	7.4
<u>Philip Morris Ultra</u>			
4 analyses (dual filter)	1.2	0.15	12.9
<u>Philip morris (PMS) Super Lights</u>			
4 analysis (single filter)	5.4	0.25	5.8
<u>Project Volga prototypes</u>			
47P / 3 analyses (triple filter)	5.0	0.54	10.7
56P / 1 analysis (triple filter)	3.8	0.38	10.1
48P / (no perforation)			
3 analyses (triple filter)	4.7	0.46	9.9
57P / 1 analysis (triple filter)	3.4	0.30	8.9
35P / 10 analyses	5.3	0.85	16.2
(dual tube-in-tow filter)			

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PROJECT LENA - NO 0082

## Objective

**To develop a papirossi-like cigarette giving low-tar delivery.**

## Status

To achieve this, we produced a hollow carton tube at Intertaba in the format of 2 UP 100 mm. Each 50 mm mouth piece is attached to 34 mm cigarette rod as in Fig. 1. Prototype 2P was produced using this mouthpiece (carton tube) and a high-density tobacco rod made of total-blend expansion tobacco. The mouthpiece tube is then perforated by a lab macrolaser to achieve 36 % ventilation. Below are the smoke results and the physical parameters for this prototype.

Prototype		2P
Cig. format	[mm]	84/50/7.9
Blend code		ZB 028
Tar	[mg/cig]	9.3
SN	[mg/cig]	0.76
Tip. length	[mm]	54
Cig. RTD	[mm WG]	36
Cig. ventil.	[%]	36
Puff count	[nb/cig]	4.7

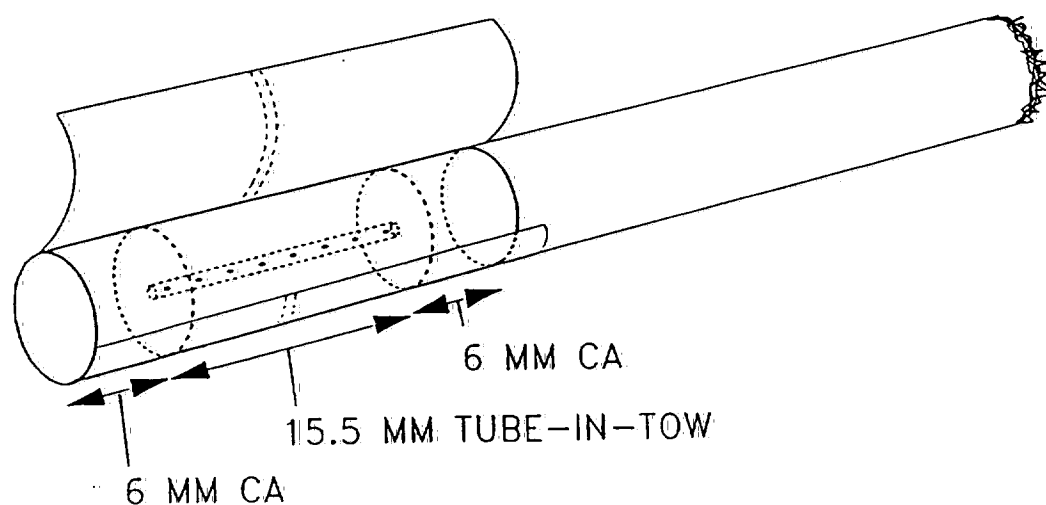
## Plans

Project Lena is completed.

*Samuel H. H. H.*

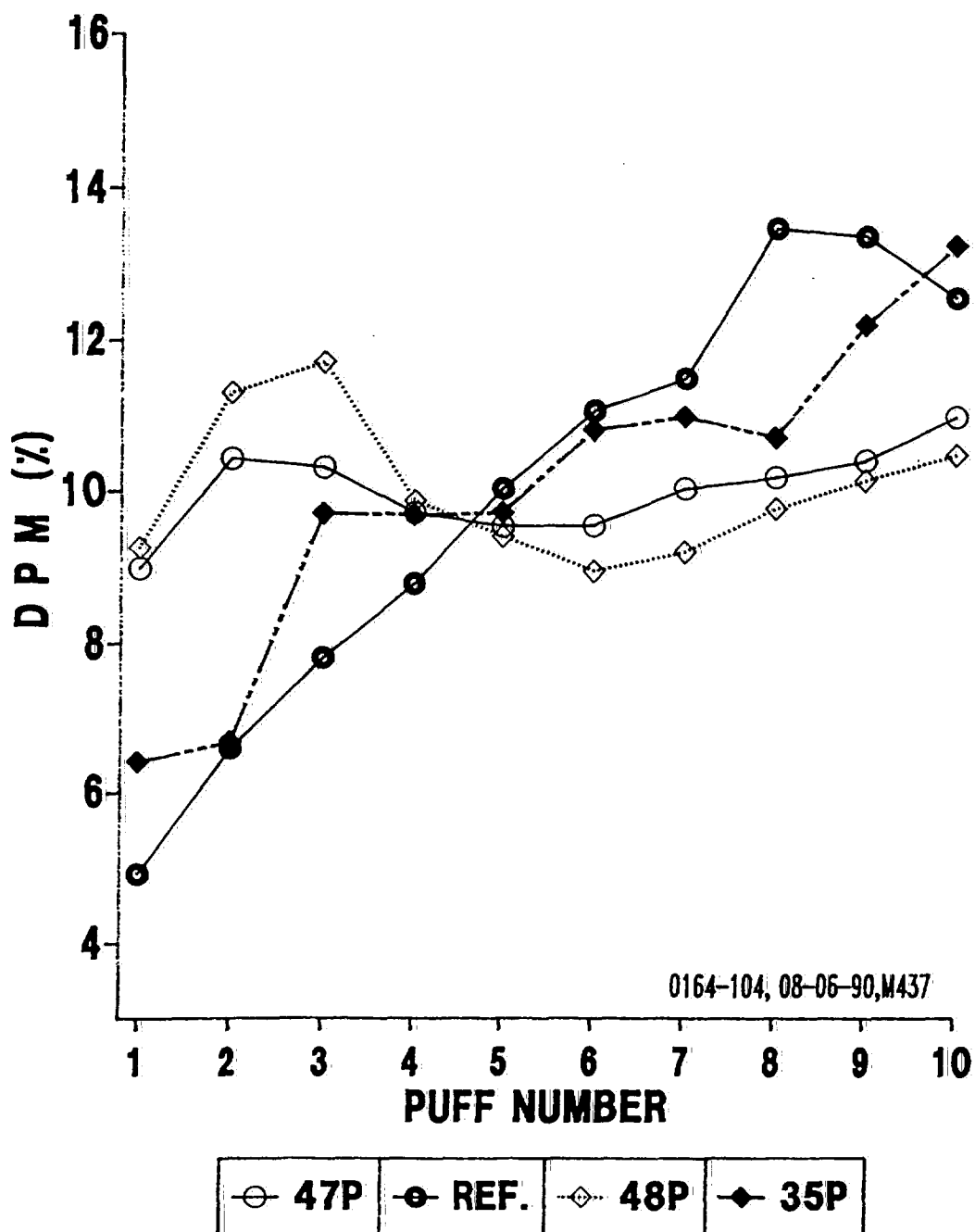
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# FIGURE 1 - PROJECT VOLGA TRIPLE TUBE-IN-TOW FILTER



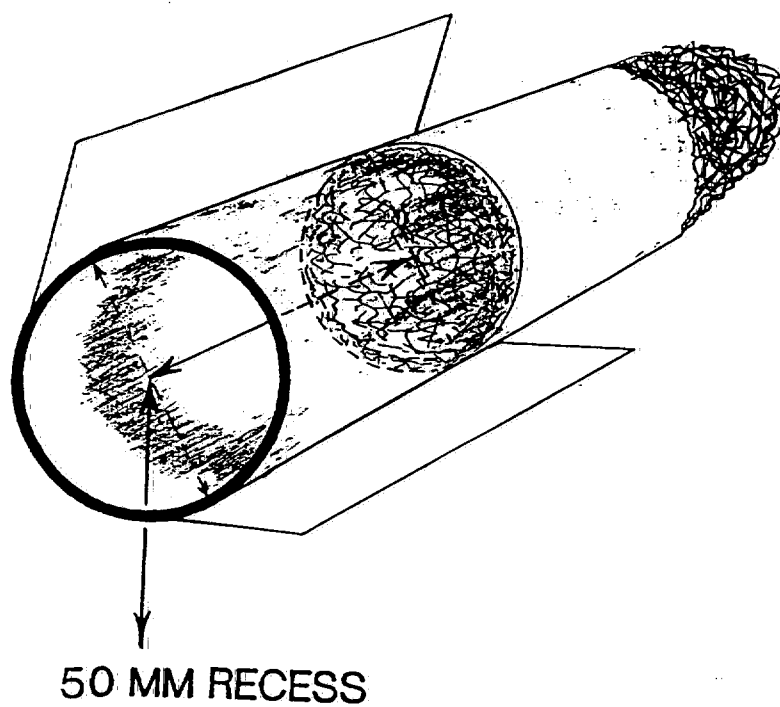
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# FIGURE 2 - PROJECT VOLGA PUFF-BY-PUFF-PROFILE



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# FIGURE 1 - PROJECT LENA



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